

# How Sensor ICs Make Clean Energy Work

## Harnessing Technology for a Sustainable Future

Sensor integrated circuits (ICs) are revolutionizing the world of clean energy. These powerful devices play a crucial role in every stage of the clean energy cycle, from creation to consumption. Explore the fascinating ways sensor ICs are shaping our clean energy landscape and paving the way for a more sustainable future.

### DID YOU KNOW?

#### ENERGY CREATION

Sensor ICs are essential in optimizing energy creation from renewable sources. Monitoring parameters such as light intensity and temperature, sensor ICs enable solar panels to maximize their energy output.

Motor drivers position PV panel to optimize illumination and photoelectric collection.

Current sensors monitor panel output and inform motor drivers to achieve peak photoelectric efficiency.

#### ENERGY CONVERSION

Sensor ICs play a vital role in converting clean energy into usable electricity. By monitoring and regulating the energy conversion process these tiny sensors ensure that the energy conversion systems operate at their optimal levels.

High-voltage current sensors provide isolation, detect faults and reduce system complexity—giving utilities transparency about power availability.

#### ENERGY STORAGE

Sensor ICs are instrumental in efficient energy storage. Whether it's batteries or advanced storage systems like fuel cells, sensor ICs enable accurate monitoring of parameters such as voltage, current, and temperature.

Sensors monitor energy storage battery health, which requires reliable, compact and low power current sensor ICs.

Motor drivers control pumps or fans for thermal management.

Gate drivers control semiconductor switching and provide high isolation, minimizing energy loss.

#### ENERGY CONSUMPTION

Sensor ICs contribute to energy-efficient consumption in various applications like EV charging. These intelligent devices monitor energy usage and optimize consumption patterns so that drivers can spend more time on the road and less time plugged in.

Current sensors with fast switching and high isolation ensure reliable, safe operation.